APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,409	09/16/2004	Chiung-hsien Wu	IACP0046USA	5408

27765   7590   11/26/2007

NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION
P.O. BOX 506
MERRIFIELD, VA 22116

EXAMINER
BROOKS, SHANNON

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
11/26/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

winstonhsu.uspto@gmail.com
Patent.admin.uspto.Rcv@naipo.com
mis.ap.uspto@naipo.com.tw

PTOL-90A (Rev. 04/07)

	Application No.	**Applicant(s)**
Office Action Summary	10/711,409	WU ET AL.
	Examiner	**Art Unit**	
	Shannon R. Brooks	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>22 August 2007</u>.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-17</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-17</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>16 September 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 5/23/07 have been fully considered but they are not persuasive.

The Applicant argues that Liu teaches that data is buffered until the station wakes up and that therefore, Liu does not teach a delivery of data to the station as soon as the access point receives data to be delivered to the station, as claimed in claims 1 and 12. The Applicant argues that, in contrast to Liu, more data is being delivered, because the station remains in the active mode and does not enter the power saving mode. However, Liu describes an identified station that simply remains awake and silently waits for the frames delivered by the AP as long as the MORE_DATA field is not set to zero (Pg. 5, [0069]-[0072]). Therefore, Liu clearly reads upon the argued features.

The Applicant argues that independent claims 1 and 12 require traffic to be buffered until the station wakes up, that Liu alone or in combination fails to teach this, and that therefore all other claims should be allowed. However, as explained above, Liu teaches an identified station that simply remains awake and silently waits for the frames delivered by the AP as long as the MORE_DATA field is not set to zero (Pg. 5, [0069]-[0072]). Therefore Liu, alone or in combination, reads on the argued limitations.

The Applicant argues that van Kampen, Amada, and Kubler, and Stephens are not combinable with Liu. However, van Kampen, Amada, Kubler, and Stephens are all exemplary references from analogous art, with motivations that have been clearly pointed out, as set forth in the appropriate rejections. Therefore, Liu, alone or in combination, reads upon the argued limitation as discussed above and reads on the limitation as set forth in this Office Action. This Office Action is made FINAL.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

3.   **Claims 1-3, 6, 9, and 11-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (US 2005/0009578 A1) in view of Van Kampen (US 2005/0136914 A1).

Consider **Claim 1**, Liu teaches a power-saving method for a station used in a WLAN, an access point sending a plurality of fragments to the station during an interval which is between a first beacon and a second beacon adjacent to the first beacon, the station receiving the plurality of fragments at different time points after receiving the first beacon, the power-saving method comprising: the access point receiving a first fragment to be delivered to the station (read as AP indicates buffered traffic using the TIM field, Pg. 5, [0070]); the access point immediately delivering the first fragment to the station in response to the access point receiving the first fragment (read as identified station remains awake and silently waits for frames with MORE_DATA not set to zero, Pg. 5, [0070]-[0072]) ;

if a period between the first beacon and a fragment of the plurality of fragments received by the station after the first beacon is smaller than a predetermined time (activation delay and/or wakeup period that controls beacon interval, Pg. 4, [0055], and Pg. 5, [0070]-[0080]), setting a MORE DATA BIT as enabled and the station is in an awake mode (Pg. 3, [0033]); and if a period between the first beacon and a fragment of the plurality of fragments received by the station after the first beacon is not smaller than a predetermined time, setting the MORE DATA BIT as disabled and the station is in a power saving mode (read as causing inactivity by controlling activation delay and/or wakeup period disables (invalidating) MORE DATA BIT set in TIM, Pg. 4, [0055] and Pg. 5, [0070]-[0079]).

Lui teaches an awake mode and does not specifically teach an active mode. However, Van Kampen teaches an active mode (Pg. 2, [0019].

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the teaching of Van Kampen into Liu in order to indicate the mode that a station will be in after a frame exchange (Pg. 2, [0019])

Consider **Claim 12**, Liu teaches a wireless communication system with a power-saving function, the wireless communication system comprising: an access point for sending a plurality of periodic beacons and sending a plurality of fragments during an interval between a first beacon and a second beacon adjacent to the first beacon (Fig. 3, Block 120, and Pg. 4, [0054]-[0055]), the first beacon comprising a traffic indication (Pg. 2, [0028], and Pg. 3, [0033]) wherein the access point delivers a first fragment to the station immediately after receiving the first fragment (read as identified station remains awake and silently waits for frames with MORE_DATA not set to zero, Pg. 5, [0070]-[0072]); and a station for receiving the first beacon and receiving the plurality of fragments at different time points after the first beacon is received, the station comprising: a processor for setting a MORE DATA BIT as enabled (Fig. 3 and Pg. 4, [0055]) and the station is in an awake mode if a period between the first beacon and a second fragment of the plurality of fragments received by the station after the first beacon is smaller than a predetermined time (read as activation delay and/or wakeup period that controls beacon interval, Pg. 4, [0055], and Pg. 5, [0070]-[0080]), and setting a MORE DATA BIT as disabled and the station is in a power saving mode if a period between the first beacon and a second fragment of the plurality of fragments received by the station after the first beacon is not smaller than the predetermined time (read as causing inactivity by controlling activation delay and/or wakeup period disabling (invalidating) MORE DATA BIT set in TIM, Pg. 4, [0055] and Pg. 5, [0070]-[0079]).

Lui teaches an awake mode and does not specifically teach an active mode. However, Van Kampen teaches an active mode (Pg. 2, [0019].

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the teaching of Van Kampen into Liu in order to indicate the mode that a station will be in after a frame exchange (Pg. 2, [0019])

Consider **Claim 2**, Liu teaches the power-saving method further comprising informing the access point that the station is in the power saving mode (Pg. 2, [0027]-[0028])

Consider **Claim 3**, Liu teaches the power-saving method further comprising the access point delivering a traffic indication to the station through the first beacon (read as TIM Pg. 4, [0055]).

Consider **Claim 6**, Liu teaches the power-saving method further comprising dividing a packet into the plurality of fragments (Pg. 2, [0016]).

Consider **Claim 9**, Liu teaches the power-saving method wherein the plurality of fragments comprises sound information **(Pg. 2, [0018] and Pg. 9, [0149])**.

Consider **Claim 11**, Liu teaches the power-saving method wherein a ratio of the predetermined time to the interval between the first beacon and the second beacon is between 0 and 1 inclusive **(read as adjustable activation delay and/or wakeup period controls beacon interval, Pg. 4, [0055], and Pg. 5, [0070]-[0080]).**

4.   **Claims 4-5, 7-8, and 13-15** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Liu (US 2005/0009578 A1) in view of Van Kampen (US

2005/0136914 A1), and further in view of Stephens (US 2005/0068895 A1).

Consider **Claim 4**, Liu teaches the power-saving method further comprising except that it

does not specifically teach the station delivering a PS-Poll control packet to the access point.

However, Stephens teaches the power-saving method further comprising except that it

does not specifically teach the station delivering a PS-Poll control packet to the access point **(Pg.

3, [0041])**.

Therefore, it would have been obvious to one skilled in the art to incorporate the teaching

of Stephens into Liu in order to provide a reliable exchange protocol **(Pg. 3, [0041])**.

Consider **Claim 5**, Liu teaches the power-saving method further comprising except, that

it does not specifically teach the access point recognizing the PS-Poll control packet and sending

a buffer packet to the station.

However, Stephens teaches the access point recognizing the PS-Poll control packet and

sending a buffer packet to the station (Pg. 3, [0041]).

Therefore, it would have been obvious to one skilled in the art to incorporate the teaching

of Stephens into Liu in order to provide a reliable exchange protocol **(Pg. 3, [0041])**.

Consider **Claim 7**, Lui teaches the power-saving method further comprising, except that it does

not specifically teach sending the plurality of fragments to a single-packet MAC buffer.

However, Stephens teaches sending the plurality of fragments (**read as a frame**) to a

single-packet MAC buffer (**Pg. 3, [0041]**).

Therefore, it would have been obvious to one skilled in the art to incorporate the teaching of Stephens into Liu in order to provide a reliable exchange protocol (Pg. 3, [0041]).

Consider **Claim 8**, Lui teaches the power saving method further comprising, except that it does not specifically teach sending the plurality of fragments to a WLAN from the single-packet MAC buffer.

However, Stephens teaches the power-saving method further comprising sending the plurality of fragments to a WLAN from the single-packet MAC buffer **(Abstract and Pg. 3, [0041])**.

Therefore, it would have been obvious to one skilled in the art to incorporate the teaching of Stephens into Liu in order to provide a reliable exchange protocol **(Pg. 3, [0041])**.

Consider **Claim 13**, Lui teaches the wireless communication system wherein the station further comprises, except that it does not specifically teach a transmitter for sending a PS-Poll control packet to the access point.

However, Stephens teaches a transmitter for sending a PS-Poll control packet to the access point **(Pg. 3, [0041])**.

Therefore, it would have been obvious to one skilled in the art to incorporate the teaching of Stephens into Liu in order to provide a reliable exchange protocol **(Pg. 3, [0041])**.

Consider **Claim 14**, Lui teaches the wireless communication system wherein the access point further comprises a logic unit, except that it does not specifically teach a logic unit for recognizing the PS-Poll control packet.

However, Stephens teaches a logic unit for recognizing the PS-Poll control packet **(Pg. 3, [0041])**.

Therefore, it would have been obvious to one skilled in the art to incorporate the teaching

of Stephens into Liu in order to provide a reliable exchange protocol **(Pg. 3, [0041]).**

Consider **Claim 15**, Liu teaches the wireless communication system wherein the access

point is further used for sending a buffer packet **(Fig. 3, Block 130b)**.

4.   **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (US

2005/0009578 A1) in view of Van Kampen (US 2005/0136914 A1), and further in view

of Kubler (US 5726984).

Consider **Claim 10**, Liu teaches the power-saving method except that it does not specifically

teach wherein the wireless communication system is wireless IP phone.

However, Kubler teaches wherein the wireless communication system is wireless IP

phone **(Col. 85, lines 27-34 and lines 52-61)**.

Therefore, it would have been obvious to one skilled in the art at the time of the invention to

incorporate the teaching of Kubler into Liu in order to aid in adaptation to an IP protocol **(Col.**

85, lines 52-61).

5.   **Claims 16 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Liu (US 2005/0009578 A1) in view of Van Kampen (US 2005/0136914 A1), and

further in view of Amada (US 5559804).

Consider **Claim 16**, Lui teaches the wireless communication system, except that it does not specifically teach wherein the access point further comprises a packet division unit for dividing a packet into a plurality of fragments.

However, Amada teaches wherein the access point further comprises a packet division unit for dividing a packet into a plurality of fragments **(Fig. 8, and Col. 9, lines 30-40)**.

Therefore, it would have been obvious to one skilled in the art to incorporate the teaching of Amada into Lui in order to aid in the transmission of fragments **(Col. 9, lines 30-40)**.

Consider **Claim 17**, Liu teaches the wireless communication system wherein the access point further comprises a single-packet MAC buffer for storing the plurality of fragments **(Pg. 4, [0055]**.

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

> Commissioner for Patents
> P.O. Box 1450
> Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

> Customer Service Window
> Randolph Building
> 401 Dulany Street

Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shannon Brooks whose telephone number is (571) 270-1115.

The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shannon R. Brooks

November 12, 2007

CHARLES N. APPIAH
SUPERVISORY PATENT EXAMINER